Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A flow-through assay device for detecting the presence or quantity of an analyte residing in a test sample, said flow-through assay device comprising a porous membrane, said porous membrane being in communication with detection probes and calibration probes, said detection probes being conjugated with a specific binding member for the analyte, said porous membrane defining:

a detection zone within which is immobilized a first capture reagent, said first capture reagent being configured to bind to at least a portion of said conjugated detection probes or complexes ~~thereof~~ formed between the analyte and said conjugated detection probes to generate a detection signal having an intensity;

a compensation zone located downstream from said detection zone, wherein a second capture reagent is immobilized within said compensation zone, said second capture reagent being configured to bind to said conjugated detection probes ~~or~~ and complexes ~~thereof~~ formed between the analyte and said conjugated detection probes passing through said detection zone to generate a compensation signal having an intensity, wherein the intensity of said compensation signal is inversely proportional to the intensity of said detection signal; and

a calibration zone within which a third capture reagent is immobilized, said third capture reagent being configured to bind to said calibration probes to generate a calibration signal that is substantially constant in intensity relative to the intensities of said detection signal and said compensation signal;

wherein the amount of the analyte within the test sample is proportional to the ratio of said detection signal intensity to said compensation signal intensity, as calibrated by said calibration signal intensity.

2. (Original) A flow-through assay device as defined in claim 1, wherein said conjugated detection probes comprise a substance selected from the group consisting

of chromogens, catalysts, luminescent compounds, radioactive compounds, visual labels, liposomes, and combinations thereof.

3. (Original) A flow-through assay device as defined in claim 1, wherein said conjugated detection probes comprise a luminescent compound.

4. (Original) A flow-through assay device as defined in claim 1, wherein said conjugated detection probes comprise a visual label.

5. (Original) A flow-through assay device as defined in claim 1, wherein said specific binding member is selected from the group consisting of antigens, haptens, aptamers, primary or secondary antibodies, biotin, and combinations thereof.

6. (Original) A flow-through assay device as defined in claim 1, wherein said first capture reagent is selected from the group consisting of antigens, haptens, protein A or G, neutravidin, avidin, streptavidin, captavidin, primary or secondary antibodies, and complexes thereof.

7. (Withdrawn) A flow-through assay device as defined in claim 1, wherein said second capture reagent is selected from the group consisting of antigens, haptens, protein A or G, neutravidin, avidin, streptavidin, captavidin, primary or secondary antibodies, and complexes thereof.

8. (Original) A flow-through assay device as defined in claim 1, wherein said second capture reagent comprises a polyelectrolyte.

9. (Original) A flow-through assay device as defined in claim 8, wherein said polyelectrolyte has a net positive charge.

10. (Original) A flow-through assay device as defined in claim 9, wherein said polyelectrolyte is selected from the group consisting of polylysine, polyethyleneimine, epichlorohydrin-functionalized polyamines or polyamidoamines, polydiallyldimethyl-ammonium chloride, cationic cellulose derivatives, and combinations thereof.

11. (Original) A flow-through assay device as defined in claim 8, wherein said polyelectrolyte has a net negative charge.

12. (Original) A flow-through assay device as defined in claim 1, wherein said third capture reagent comprises antigens, haptens, protein A or G, neutravidin, avidin, streptavidin, captavidin, primary or secondary antibodies, or complexes thereof.

13. (Original) A flow-through assay device as defined in claim 1, wherein the device is a sandwich-type assay device.

14. (Currently Amended) A flow-through assay device for detecting the presence or quantity of an analyte residing in a test sample, said flow-through assay device comprising a porous membrane, said porous membrane being in communication with optical detection probes and optical calibration probes, said optical detection probes being conjugated with a specific binding member for the analyte, said porous membrane defining:

a detection zone within which a first capture reagent is immobilized, said first capture reagent being configured to bind to at least a portion of complexes formed between the analyte and said conjugated optical detection probes to generate a detection signal intensity;

a compensation zone located downstream from said detection zone, wherein a second capture reagent is immobilized within said compensation zone, said second capture reagent being configured to bind to said conjugated optical detection probes and said complexes formed between the analyte and said conjugated optical detection probes passing through said detection zone to generate a compensation signal intensity, wherein the intensity of said compensation signal is inversely proportional to the intensity of said detection signal; and

a calibration zone within which a third capture reagent is immobilized, said third capture reagent being configured to bind to said optical calibration probes to generate a calibration signal intensity that is substantially constant relative to the intensities of said detection signal and said calibration signal;

wherein the amount of the analyte within the test sample is proportional to the ratio of said detection signal intensity to said compensation signal intensity, as calibrated by said calibration signal intensity.

15. (Original) A flow-through assay device as defined in claim 14, wherein said conjugated optical detection probes comprise a luminescent compound.

16. (Original) A flow-through assay device as defined in claim 14, wherein said conjugated optical detection probes comprise a visual label.

17. (Original) A flow-through assay device as defined in claim 14, wherein said first capture reagent is selected from the group consisting of antigens, haptens, protein A or G, neutravidin, avidin, streptavidin, captavidin, primary or secondary antibodies, and complexes thereof.

18. (Withdrawn) A flow-through assay device as defined in claim 14, wherein said second capture reagent is selected from the group consisting of antigens, haptens, protein A or G, neutravidin, avidin, streptavidin, captavidin, primary or secondary antibodies, and complexes thereof.

19. (Original) A flow-through assay device as defined in claim 14, wherein said second capture reagent comprises a polyelectrolyte.

20. (Original) A flow-through assay device as defined in claim 14, wherein said third capture reagent comprises antigens, haptens, protein A or G, neutravidin, avidin, streptavidin, captavidin, primary or secondary antibodies, or complexes thereof.

21-38. (Withdrawn)